OR1500LCDRT2U / OR2200LCDRT2U
User's Manual

K01-0000307-00

IMPORTANT SAFETY WARNINGS

(SAVE THESE INSTRUCTIONS)

This manual contains important safety instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate your UPS.

CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area free of conductive contaminants. (Please see specifications for acceptable temperature and humidity range).

CAUTION! To reduce the risk of electric shock, do not remove the cover except to service the battery. Turn off and unplug the unit before servicing the batteries. There are no user serviceable parts inside except for the battery.

CAUTION! Hazardous live parts inside can be energized by the battery even when the AC input power is disconnected.

CAUTION! The UPS must be connected to an AC power outlet with fuse or circuit breaker protection. Do not plug into an outlet that is not grounded. If you need to de-energize this equipment, turn off and unplug the unit.

CAUTION! To avoid electric shock, turn off the unit and unplug it from the AC power source before servicing the battery or installing a computer component.

CAUTION! To reduce the risk of fire, connect only to a circuit provided with 20 amperes maximum branch circuit over current protection in accordance with the National Electric Code, ANSI/NFPA 70.

DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT! CyberPower Systems does not sell products for life support or medical applications. **DO NOT** use in any circumstance that would affect the operation and safety of life support equipment, medical applications, or patient care.

DO NOT USE WITH OR NEAR AQUARIUMS! To reduce the risk of fire or electric shock, do not use with or near an aquarium. Condensation from the aquarium can cause the unit to short out.

DO NOT USE THE UPS ON ANY TRANSPORTATION! To reduce the risk of fire or electric shock, do not use the unit on any transportation such as airplanes or ships. The effect of shock or vibration caused during transit and the damp environment can cause the unit to short out.

INSTALLING YOUR UPS SYSTEM

INTRODUCTION

Thank you for selecting a CyberPower Systems UPS product. This UPS is designed to provide unsurpassed power protection, operation and performance during the lifetime of the product.

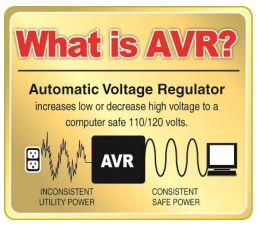
UNPACKING

Inspect the UPS upon receipt. The box should contain the following:

(a) UPS unit (b) User's manual (c) Rack mount brackets (d) Stands (e)Telephone cable (f) PowerPanel® Business Edition software CD (g) Serial interface cable (DB-9) (h) USB A+B type cable (i) Warranty registration card

OVERVIEW

The OR1500LCDRT2U/OR2200LCDRT2U UPS provides complete power protection from utility power that isn't always consistent. The OR1500LCDRT2U/OR2200LCDRT2U features surge protection against power surges and maintenance free batteries for long lasting battery backup during power outages. In addition to ensuring consistent power to your computer system and the OR1500LCDRT2U/OR2200LCDRT2U also includes software that will automatically save your open files and shutdown your computer system during a utility power loss.

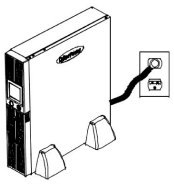


AUTOMATIC VOLTAGE REGULATOR

The OR1500LCDRT2U/OR2200LCDRT2U stabilizes inconsistent utility power voltage to nominal levels that are safe for equipment. Inconsistent utility power may be damaging to important data files and hardware, but with Automatic Voltage Regulation (AVR), damaging voltage levels are corrected to safe levels. AVR automatically increases low utility power and decreases high utility power to a consistent and safe 110/120 volts.

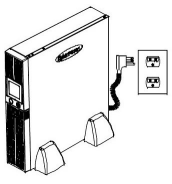
HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

1. Ensure that the equipment plugged into the outlets does not exceed the UPS unit's rated capacity (1500VA/900W for OR1500LCDRT2U, 2000VA/1320W for OR2200LCDRT2U). If the rated capacities of the unit are exceeded, an overload condition may occur and cause the UPS unit to shut down or the circuit breaker to trip.

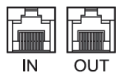


HARDWARE INSTALLATION GUIDE

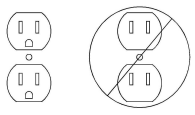
1. Your new UPS may be used immediately upon receipt. However, to ensure the battery's maximum charge capacity, it is recommended that you charge the battery for at least 8 hours. Your UPS is equipped with an auto-charge feature. When the UPS is plugged into an AC outlet, the battery will automatically charge whether the UPS is turned on or off.
2. With the UPS unit turned off and unplugged, connect your computer, monitor, and any other peripherals requiring battery backup into the battery power supplied outlets. **DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum, sump pump or other large electrical devices into the "Battery and Surge Protected Outlets". The power demands of these devices may overload and damage the unit.**



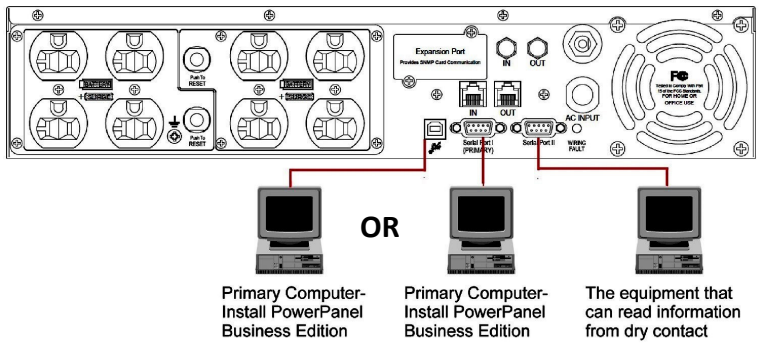
3. To protect a fax, phone or modem, connect a telephone cable or network cable from the wall jack outlet to the IN jack of the UPS. Connect a telephone cable or network cable from the OUT jack of the UPS to a fax machine, telephone, modem, or network devices.



4. Plug the UPS into a 2 pole, 3 wire grounded receptacle (wall outlet). Make sure the wall branch outlet is protected by a fuse or circuit breaker and does not service equipment with large electrical demands (e.g. air conditioner, copier, etc…). The warranty prohibits the use of extension cords, outlet strips, and surge strips.

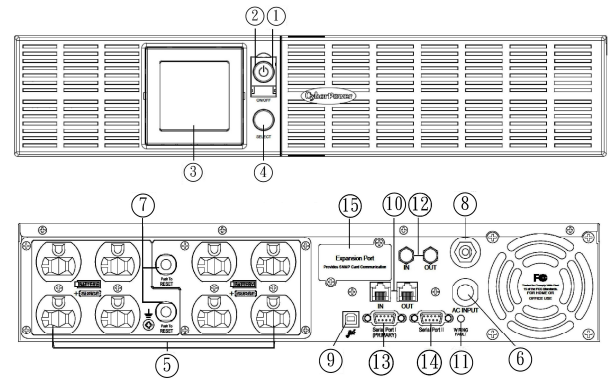


5. Press the power switch to turn the unit on. The Power On indicator light will illuminate and the unit will "beep". If an overload is detected, an audible alarm will sound and the unit will emit one long beep. To correct this, turn the UPS off and unplug at least one piece of equipment from the battery power supplied outlets. Make sure the circuit breaker is depressed and then turn the UPS on.
6. To maintain optimal battery charge, leave the UPS plugged into an AC outlet at all times.
7. To store the UPS for an extended period, cover it and store with the battery fully charged. While in storage, recharge the battery every three months to ensure battery life.
8. Ensure the wall outlet and UPS are located near the equipment being attached for proper accessibility.
9. Professional Rack Mount UPS provides one serial port, one dry contact and one USB port to allow connection and communication between the UPS and computers or equipment. USB port and Serial Port I (Primary) allow the simultaneous shutdown of two computer systems. Serial port II produces the basic information for the equipment that can utilize a dry contact ups. The Primary computers (with PowerPanel® Business Edition installed) are the computers that you will use to control the UPS and make any changes to the operation of the UPS. When there is a power failure, the computer which connects to Primary port will start to shut down after a user controlled delay. PowerPanel® Business Edition will save and close any open files to shutting the system down.



BASIC OPERATION

DESCRIPTION



1. **Power Switch**
   Used as the master on/off switch for equipment connected to the battery power supplied outlets.
2. **Power On Indicator**
   This LED is illuminated when the utility power is normal and the UPS outlets are providing power, free of surges and spikes.
3. **LCD module display**
   High resolution and intelligent LCD display shows all the UPS information using icons and messages. For more information please review the "Definitions for Illuminated LCD Indicators" section below.
4. **LCD function selection switch**
   The switch can be used to select the LCD display contents including input/output voltage and estimated run time, etc.
5. **Battery and Surge Protected Outlets**
   The unit has eight battery powered/surge suppression outlets for connected equipment to ensure temporary uninterrupted operation of your equipment during a power failure. **(DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum, sump pump or other large electrical devices into the "Battery and Surge Protected Outlets". The power demands of these devices may overload and damage the unit.)**
6. **AC Input Power Cord**
   Heavy-duty,extra long power cord.
7. **Output Circuit Breaker**
   Resettable circuit breakers provide output optimal overload protection.
8. **Input Circuit Breaker**
   Resettable circuit breakers provide input optimal overload protection.
9. **USB Port**
   The USB port allows connection and communication between the USB port on the computer and the UPS unit.
10. **Communication Protection Ports**
    Communication protection ports will protect any standard modem, fax, telephone line, network or Ethernet connection (RJ11/RJ45).
11. **Wiring Fault Indicator (red)**
    This LED indicator will illuminate to warn the user that a wiring problem exists, such as bad ground, missing ground or reversed wiring. If this is illuminated, disconnect all electrical equipments from the outlet and have an electrician verify the outlet is properly wired. The unit will not provide surge protection without being plugged into a grounded and properly wired wall outlet.
12. **Coax/Cable/DSS Surge Protection**
    The Coax/Cable/DSS surge protection ports will protect any cable modem, CATV converter, or DSS receiver.
    High resolution and intelligent LCD display shows all the UPS information using icons and messages. For more information please review the "Definitions for Illuminated LCD Indicators" section below.
13. **Serial Port I (Primary)**
    The serial port allows connection and communication between the UPS and the computer.
14. **Serial Port II (Dry Contact)**
    Dry contact produces information for equipment that can utilize dry contact signals.
15. **SNMP/HTTP Network Slot**
    Remove the cover panel to install an optional RMCARD provides remote monitoring and management of your UPS over a network.

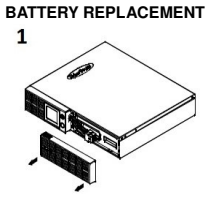
REPLACING THE BATTERY

Replacement of batteries located in an **OPERATOR ACCESS AREA**.

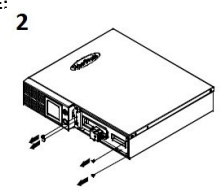
1. When replacing batteries, replace with the same number of the following battery: CyberPower / RB1270X4F for the OR1500LCDRT2U, CyberPower / RB1290X4G for the OR2200LCDRT2U. Contact CyberPower Systems about replacement batteries.
2. **CAUTION!** Risk of Energy Hazard, 24 V, maximum 18 Ampere-hour battery. Before replacing batteries, remove conductive jewelry such as chains, wrist watches, and rings. High energy conducted through these materials could cause severe burns.
3. **CAUTION!** Do not dispose of batteries in a fire. The batteries may explode.
4. **CAUTION!** Do not open or mutilate batteries. Released material is harmful to the skin and eyes. It may be toxic.

CAUTION - RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO LOCAL REGULATIONS.

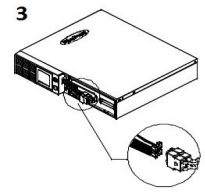
■ **BATTERY REPLACEMENT PROCEDURE:**



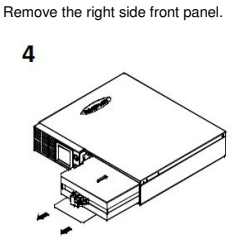
1. Remove the right side front panel.



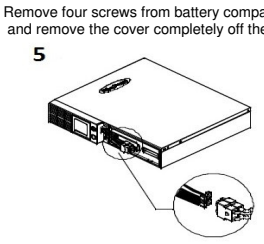
2. Remove four screws from battery compartment cover and remove the cover completely off the unit.



3. Disconnect the black and red cable



4. Insert the new battery pack. Assemble the screws, cover, cable and front panel in the reverse sequence of above steps.



5. Install the replacement batteries by connecting the red wire and black wire to the same color wires from the battery pack.
   Recharge the unit for at least 8 hours to ensure the UPS performs expected runtime.

REMINDER: Batteries are considered **HAZARDOUS WASTE** and must be disposed of properly. Most retailers that sell lead-acid batteries collect used batteries for recycling, as required by local regulations.

DEFINITIONS FOR ILLUMINATED LCD INDICATORS

The LCD display indicates a variety of UPS operational conditions. All descriptions apply when the UPS is plugged into an AC outlet and turned on or when the UPS is on battery.

1. **INPUT voltage meter:**
   This meter measures the AC voltage that the UPS system is receiving from the utility wall outlet. The UPS is designed, through the use of automatic voltage regulation, to continuously correct output voltage to connected equipment to a safe 110/120 voltage output range. In the event of a complete power loss, severe brownout, or over-voltage, the UPS relies on its internal battery to supply consistent 110/120 output voltage. The INPUT voltage meter can be used as a diagnostic tool to identify poor-quality input power.
2. **OUTPUT voltage meter:**
   This meter measures, in real time, the AC voltage that the UPS system is providing to the computer, such as normal line mode, AVR mode, and battery backup mode. (Note: The OUTPUT voltage meter shows the status of the battery backup outlets.)
3. **ESTIMATED RUN TIME:**
   This displays the run time estimate of the UPS with current battery capacity and load.
4. **NORMAL icon:**
   This icon appears when the UPS is working under normal conditions.

5. **BATTERY icon:**
   During a severe brownout or blackout, this icon appears and an alarm sounds (two short beeps followed by a pause) to indicate the UPS is operating from its internal batteries. During a prolonged brownout or blackout, the alarm will sound continuously (and the BATT.CAPACITY meter shows one 20% capacity segment shaded) to indicate the UPS's batteries are nearly out of power. You should save files and turn off your equipment immediately or allow the software to shut the system down.
6. **AVR (Automatic Voltage Regulation) icon:**
   This icon appears whenever your UPS is automatically correcting low AC line voltage without using battery power. This is a normal, automatic operation of your UPS, and no action is required on your part.
7. **SILENT MODE icon:**
   This icon appears whenever the UPS is in silent mode. The buzzer does not beep during silent mode until the battery reaches low capacity.
8. **OVER LOAD icon:**
   This icon appears and an alarm sounds to indicate the battery-supplied outlets are overloaded. To clear the overload, unplug some of your equipment from the battery-supplied outlets until the icon turns off and the alarm stops.
9. **FAULT icon:**
   This icon appears if there is a problem with the UPS, Contact CyberPower Systems at tech@cpsww.com for further help and support.
10. **BATT. CAPACITY meter:**
    This meter displays the approximate charge level (in 20% increments) of the UPS's internal battery. During a blackout or severe brownout, the UPS switches to battery power, the BATTERY icon appears, and the charge level decreases.
11. **LOAD CAPACITY meter:**
    This meter displays the approximate output load level (in 20% increments) of the UPS battery outlets.

TROUBLESHOOTING

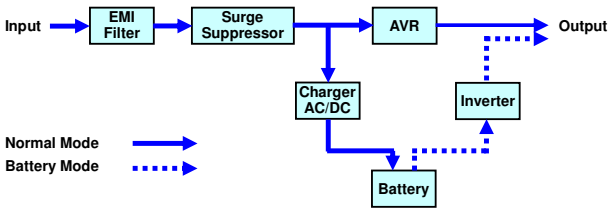
Problem	Possible Cause	Solution
Circuit breaker button is projecting from the back of the unit.	Circuit breaker has tripped due to an overload.	Turn the UPS off and unplug at least one piece of equipment. Wait 10 seconds, reset the circuit breaker by pressing the button in, and then turn the UPS on.
The UPS does not perform expected runtime.	Battery not fully charged.	Recharge the battery by leaving the UPS plugged in.
	Battery is worn out.	Contact CyberPower Systems about replacement batteries at tech@cpsww.com
The UPS will not turn on.	The on/off switch is designed to prevent damage from rapidly turning it off and on.	Turn the UPS off. Wait 10 seconds and then turn the UPS on.
	The unit is not connected to an AC outlet.	The unit must be connected to a 110/120V 60Hz outlet.
	The battery is worn out.	Contact CyberPower Systems about replacement batteries at tech@cpsww.com
	Mechanical problem.	Contact CyberPower Systems at tech@cpsww.com
PowerPanel® Business Edition is inactive (all icons are gray).	The USB / serial cable is not connected.	Connect the USB / serial cable to the UPS unit and an open USB / serial port on the back of the computer. You must use the cable that came with the unit.
	The USB / serial cable is connected to the wrong port.	Check the back of the computer for an additional USB / serial port. Move the cable to this port.
	The unit is not providing battery power.	Shutdown your computer and turn the UPS off. Wait 10 seconds and turn the UPS back on. This should reset the unit.
	The serial cable is not the cable that came with the unit.	Please use the serial cable that came with the unit for the software.

Additional troubleshooting information can be found under "Support" at www.CPSww.com

TECHNICAL SPECIFICATIONS

Model	OR1500LCDRT2U	OR2200LCDRT2U
Capacity	1500VA / 900W	2000VA / 1320W
Nominal Input Voltage	120Vac	
Input Frequency	50/60 Hz +/- 3 Hz(Auto-sensing)	
On-Battery Output Voltage	120Vac +/- 10%	
On-Battery Output Wave Form	Simulated Sine Wave	
Operating Temperature	+ 32℉ to 104° F / 0° C to 40° C	
Operating Relative Humidity	0 to 90% non-condensing	
Size (W x H x D)	17.2" x 3.5" x 15.7"	
Net Weight	21.9 lbs / 9.9 kg	23.9 lbs / 10.8 kg
Typical Battery Recharge Time	8 hours from total discharge	
Typical Battery Life	3 to 6 years, depending on number of discharge/recharge cycles	
Recommended Battery	Sealed Maintenance Free Lead Acid Battery	
Safety Approvals	UL1778 / CSAC22.2 No.107, FCC DOC Class B	

SYSTEM FUNCTIONAL BLOCK DIAGRAM



CYBERPOWER GREENPOWER UPS™ TECHNOLOGY

Advanced Energy-Saving Patented Bypass Technology

CyberPower's patented GreenPower UPS™ with Bypass Technology reduces UPS energy costs by up to 75% compared to conventional UPS models. Even when utility power is normal, conventional UPS models constantly pass power through a transformer. By contrast, under normal conditions the advanced circuitry of a GreenPower UPS™ bypasses the transformer. As a result, the power efficiency is significantly increased while decreasing waste heat, using less energy, and reducing energy costs.

When an abnormal power condition occurs, the GreenPower UPS™ automatically runs power through its transformer to regulate voltage and provide "safe" power. Since utility power is normal over 88% of the time, the GreenPower UPS™ operates primarily in its efficient bypass mode.

The GreenPower UPS™ is also manufactured in accordance with the Restriction on Hazardous Substances (RoHS) directive making it one of the most environmentally-friendly on the market today.

Limited Warranty and Connected Equipment Guarantee

Read the following terms and conditions carefully before using the CyberPower OR1500LCDRT2U/OR2200LCDRT2U (the "Product"). By using the Product you consent to be bound by and become a party to the terms and conditions of this Limited Warranty and Connected Equipment Guarantee (together referred to as this "Warranty"). If you do not agree to the terms and conditions of this Warranty, you should return the Product for a full refund prior to using it.

Who is Providing this Warranty?

CyberPower Systems (USA), Inc. ("CyberPower") provides this Limited Warranty.

What Does This Warranty Cover?

This warranty covers defects in materials and workmanship in the Product under normal use and conditions. It also covers equipment that was connected to the Product and damaged because of the failure of the Product.

What is the Period of Coverage?

This warranty covers the Product for three years and connected equipment for as long as you own the Product.

Who Is Covered?

This warranty only covers the original purchaser. Coverage ends if you sell or otherwise transfer the Product.

How Do You Get Warranty Service?

1. Before contacting CyberPower, identify Your Product model number, the Purchase Date, and each item of Connected Equipment (E.G. Computer tower, Computer Monitor, Ink Jet Printer, Cable Modem, etc).
2. Visit our web site at http://www.cpsww.com/support or Call us at (877) 297-6937.
3. If your product requires warranty service you must provide a copy of your dated purchase receipt or invoice.

How Do You Open A Connected Equipment Claim?

1. Call us at (877) 297-6937 or write to us at Cyber Power Systems (USA), Inc., 4241 12th Ave. E., STE 400, Shakopee, MN 55379, or send us an e-mail message at claims@cpsww.com for instructions, within 10 days of the occurrence.
2. When you contact CyberPower, identify the Product, the Purchase Date, and the item(s) of Connected Equipment. Have information on all applicable insurance or other resources of recovery/payment that are available to the Initial Customer and Request a Claim Number.
3. You must provide a dated purchase receipt (or other proof of the original purchase) and provide a description of the damage to your connected equipment.
4. Pack and ship the product to CyberPower and, if requested, the item(s) of Connected Equipment, a repair cost estimate for the damage to the Connected Equipment, and all claim forms that CyberPower provides to you. Show the Claim Number on the shipping label or include it with the product. **You must prepay all shipping costs, you are responsible for packaging and shipment, and you must pay the cost of the repair estimate.**

How Long Do I Have To Make A Claim?

All claims must be made within ten days of the occurrence.

What Will We Do To Correct Problems?

CyberPower will inspect and examine the Product.

If the Product is defective in material or workmanship, CyberPower will repair or replace it at CyberPower's expense, or, if CyberPower is unable to or decides not to repair or replace the Product (if defective) within a reasonable time, CyberPower will refund to you the full purchase price you paid for the Product (purchase receipt showing price paid is required).

If it appears that our Product failed to protect any equipment plugged into it, we will also send you forms for making your claim for the connected equipment. We will repair or replace the equipment that was damaged because of the failure of our Product or pay you the fair market value (NOT REPLACEMENT COST) of the equipment at of the time of the damage. We will use Orion Blue Book, or another a third-party valuation guide, or eBay, craigslist, or other source to establish that amount. Our maximum liability is limited to $300,000 for the OR1500LCDRT2U and OR2200LCDRT2U.

Who Pays For Shipping?

We pay when we send items to you; you pay when you send items to us.

What isn't covered by the warranty?

1. This Warranty does not cover any software that was damaged or needs to be replaced due to the failure of the Product or any data that is lost as a result of the failure or the restoration of data or records, or the reinstallation of software.
2. This Warranty does not cover or apply to: misuse, modification, operation or storage outside environmental limits of the Product or the equipment connected to it, nor for damage while in transit or in storage, nor if there has been improper operation or maintenance, or use with items not designed or intended for use with the Product, such as laser printers, appliances, aquariums, medical or life support devices, etc.

What are the Limitations?

The sole and exclusive remedies of the Initial Customer are those provided by this Warranty.

1. This Warranty does not apply unless the Product and the equipment that was connected to it were connected to properly wired and grounded outlets (including compliance with electrical and safety codes of the most current electrical code), without the use of any adapters or other connectors.
2. The Product must have been plugged directly into the power source and the equipment connected to the Product must be directly connected to the Product and not "daisy-chained" together in serial fashion with any extension cords, another Product or device similar to the Product, surge suppressor, or power tap. Any such installation voids the Limited Warranty.
3. The Product and equipment connected to it must have been used properly in a suitable and proper environment and in conformance with any license, instruction manual, or warnings provided with the Product and the equipment connected to it.
4. The Product must have been used at all times within the limitations on the Product's VA capacity.

The Product was designed to eliminate disrupting and damaging effects of momentary (less than 1ms) voltage spikes or impulses from lightning or other power transients. If it can be shown that a voltage spike lasting longer than 1ms has occurred, the occurrence will be deemed outside the rated capabilities of the Product and the Limited Warranty is void. CyberPower Does Not Cover or Undertake Any Liability in Any Event for Any of the Following:

1. Loss of or damage to data, records, or software or the restoration of data or records, or the reinstallation of software.
2. Damage from causes other than AC Power Line Transients, spikes, or surges on properly installed, grounded and code-compliant 120 volt power lines in the United States and Canada; transients, surges or spikes on standard telephone land lines, PBX telephone equipment lines or Base 10T Ethernet lines, when properly installed and connected. (This exclusion applies, for example, to fluctuations in data transmission or reception, by CATV or RF transmission or fluctuations, or by transients in such transmission.)
3. Damage from any circumstance described as excluded above with respect to the Product.
4. Damages from fire, flood, wind, rain, rising water, leakage or breakage of plumbing, abuse, misuse or alteration of either the product or the Connected Equipment.
5. CyberPower excludes any liability for personal injury under the Limited Warranty and Connected Equipment Guarantee. CyberPower excludes any liability for direct, indirect, special, incidental or consequential damages, whether for damage to or loss of property [EXCEPT FOR (AND ONLY FOR) the specific limited agreement of CyberPower to provide certain warranty benefits regarding "Connected Equipment" under this Warranty], loss of profits, business interruption, or loss of information or data. NOTE: Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.
6. The Product is not for use in high-risk activities or with aquariums. The Product is not designed or intended for use in hazardous environments requiring fail-safe performance, or for use in any circumstance in which the failure of the Product could lead directly to death, personal injury, or severe physical or property damage, or that would affect operation or safety of any medical or life support device (collectively, "High Risk Activities"). CyberPower expressly disclaims any express or implied warranty of fitness for High Risk Activities or with aquariums. CyberPower does not authorize use of any Product in any High Risk Activities or with Aquariums. **ANY SUCH USE IS IMPROPER AND IS A MISUSE OF THE PRODUCT**.

Where Can I Get More Information?

The application of the United Nations Convention of Contracts for the International Sale of Goods is expressly excluded.

CyberPower is the warrantor under this Limited Warranty.

For further information please feel free to contact CyberPower at CyberPower Systems (USA), Inc. 4241 12th Ave E., STE 400, Shakopee, MN 55379; call us at (877) 297-6937; or send us an e-mail message at claims@cpsww.com.

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